



February 18, 2005

Mr. Andrew Fisk
Director, Bureau of Land and Water Quality
Department of Environmental Protection
17 State House Station
Augusta, ME 04347-0017

Re: Draft Androscoggin River TMDL

Dear Andy:

Thank you for the opportunity to comment on this important document, and please extend our thanks to Paul for his many years of hard work to clean up the Androscoggin River. NRCM has the following comments on the draft TMDL.

General

We are generally supportive of the modeling work DEP has done in this report and previously. We also think the report could benefit from some rewriting to make it more easily understandable.

However, we are not supportive of DEP's continued delay in implementing limits to bring the Androscoggin River into compliance with standards. The river did not meet standards, either for DO or contact recreation, in the summer of 2004, a very wet and cool summer, so it is clear that significant reductions still need to take place in point source discharges. We believe the TMDL should specify what those reductions need to be for the dischargers, and 38 MRSA 464 clearly gives DEP the authority to do this. We believe that DEP's proposal to negotiate allocations with the dischargers will lead to further delay in cleaning up the river. DEP clearly has enough information to set license limits and needs to move forward. In addition, the McCubbin report clearly demonstrates that the mills can meet any of the limits proposed in this TMDL through affordable investments in efficient and well established technologies.

Phosphorus TMDL

In general, we are concerned that DEP's TMDL may overestimate the amount of phosphorus that can be discharged by the upstream mills without causing blooms in Gulf Island Pond. This is because DEP allows for significant uptake of phosphorus in the river before the pond is reached, sometimes nearly 99% of phosphorus discharged, as is the

case for ortho-phosphorus discharged by the Fraser mill. However, where does all of this phosphorus go? Phosphorus is an element and can neither be created nor destroyed. Unless there is a mechanism for phosphorus to be removed from the river above Gulf Island Pond, such as flooding and deposition in floodplains, phosphorus taken up by plants in the river above the pond will eventually move downstream as plants die off, and the ability of plants to take up phosphorus is not infinite. A likely area for this phosphorus to accumulate will be Gulf Island Pond, where it will be available for algae blooms. This underscores at least the need for DEP to be confident in its margins of safety and make sure these are kept conservative and may mean that significantly lower phosphorus limits will be required than those proposed in this TMDL.

We also have the following more specific comments:

- DEP should provide greater explanation of how it arrived at its trading ratios. Showing the calculations would be helpful.
- The calculations in Table 6 are also difficult to follow. For example, phosphorus allocations are given in total phosphorus and ortho-phosphorus, but assimilation factors are for organic phosphorus and ortho-phosphorus (a note that OP means organic phosphorus and OPO4-P means ortho-phosphorus would also be helpful to the unfamiliar reader).
- A column that shows the conversion calculation from total phosphorus to organic phosphorus would be helpful.
- The term assimilation factor is confusing. Explaining that this refers to the percent phosphorus remaining rather than the percent phosphorus removed would be helpful, especially given that assimilation refers to the amount of removed previously in the report (P. 23).
- DEP should provide an explanation of the value of 160.4 ppd for the Fraser mill in Step 2, which is difficult to figure out. Also, the assimilation rates for Fraser, Berlin and Gorham in Table 4 do not seem to make sense given their respective distances from Gulf Island Pond.
- A statement should be added in paragraph 4 on page 14 that HydroQual's rates result in limits for phosphorus loads to Gulf Island Pond that exceed levels known to cause blooms. Therefore, it is not simply that the most conservative rates should be used to preserve the implicit margin of safety, as DEP states, but rather that the rates suggested by HydroQual result in levels of phosphorus known to cause blooms, and that therefore they make no sense to use.
- We do not agree that there is sufficient evidence to attribute the occurrence of algae blooms to increased clarity in Gulf Island Pond (page 2 of the report). It may also be due to increased phosphorus loads compared to historical levels because of changes in treatment strategies by the mills (i.e., increased use of phosphorus to allow more bugs in the treatment plants in order to treat BOD). We have almost no information on what historic phosphorus loads were to the Pond.

BOD TMDL

Regarding the TMDL for BOD, there is no legal basis for DEP to use the 6.5 ppm 30-day average criterion at 22 degrees. The legislature did not pass this standard last year, and it does not exist in statute.

In addition, we do not agree with DEP that the reduction in BOD load that results from cutting Fraser's discharge to meet Class B standards should simply be reallocated to Mead and IP. On page 1 of the TMDL Summary, the report states: "Reduction of carbonaceous BOD, TSS, and phosphorus, is needed to improve dissolved oxygen levels to attainment of class C criteria." Given this, it makes no sense to reallocate BOD removed from the river to other discharges. There is already too much BOD going in to the Androscoggin, as DEP itself notes. Any BOD reallocated to the Maine Androscoggin mills will simply have to be made up for with increased oxygen injection. We believe this would likely violate 40 CFR 125.3(f).

In addition, we do not agree that DEP has sufficient evidence for its conclusion on pages 41-42 of the report that the non-attainment in segments 12 and 13 of the model is not real. This non-attainment should be assumed to be real until and unless DEP has very solid data from low-flow, high temperature summers to demonstrate that it is not. Concluding on the basis of last summer's data alone, given the low temperature high flow conditions, that the modeled non-attainment is not real is unjustified.

TSS TMDL

Concerning TSS data, we do not believe that DEP has sufficient information to conclude that the 2002 aquatic life non-attainment data are an anomaly. Given that DEP has only five summers' worth of data to use, simply dismissing one of the summers does not make sense unless there is reason to believe the samples were not collected properly. It may be that other, unknown factors interacted with the TSS loads to cause greater invertebrate mortality in 2002. Certainly, the flows were lowest of any of the five years, and the relationship between vulnerability of the organisms to the impacts of TSS smothering and flow may not be linear. Therefore, DEP should not treat the 2002 as anomalous and should use less than 21,279 lbs TSS as the maximum load for the Livermore Falls impoundment.

Even accepting for the sake of argument that the 2002 data are anomalous (and we reiterate that we do not believe there is sufficient evidence to support this), DEP could not allow more than 30508 lbs of TSS for the Livermore impoundment TMDL. 38 MRSA (F) (1-A) states that:

(1-A) The department may only issue a waste discharge license pursuant to section 414-A, or approve a water quality certification pursuant to the United States Clean Water Act, Section 401, Public Law 92-500, as amended, when the department finds that:

(a) The existing in-stream use involves use of the water body by a population of plant life, wildlife, or aquatic, estuarine or marine life, or as aquatic, estuarine, marine, wildlife, or plant habitat, and the applicant has demonstrated that the proposed activity would not have a significant impact on the existing use.

In this case, neither DEP nor any of the dischargers has demonstrated that 35800 pounds per day (ppd) of TSS discharge to the Livermore impoundment will not have an impact

on the use of the waterbody by aquatic life. Therefore, even if DEP were to consider the 2002 data anomalous, which we do not believe there is justification to do, the maximum TSS load it could allow to the Livermore impoundment is 30508. However, the Council believes DEP must use a maximum load of less than 21279 ppd TSS for the Livermore impoundment.

Dead River TMDL

DEP asserts that there are sufficient natural and non-point sources to cause non-attainment, apparently both for algae and DO, in the Dead River, but it provides no evidence for this assertion. It seems particularly unlikely that this is the case during low-flow, high-temperature summers when there is little rain to generate significant runoff.

Thank you again for the opportunity to comment on this important document. Please feel free to contact me if you have questions on these comments.

Sincerely,

A handwritten signature in black ink, appearing to read "Nick Bennett", written over a horizontal line.

Nick Bennett
Staff Scientist

Cc:

Jennie Bridge, USEPA
Dave Courtemanch, DEP
Paul Mitnik, DEP
Steve Silva, USEPA